

WHAT IS CLAIMED IS:

1. A node controller for a data storage system having at least one node for providing access to a data storage facility, the node controller distinct from a computer-memory complex of the node, the node controller providing overall control for transferring data through the node.

2. The node controller of Claim 1 comprising a logic engine operable to perform a logic operation on data from at least one data source in the data storage system.

3. The node controller of Claim 2 wherein the at least one data source is one of an interconnect link, a peripheral component interconnect (PCI) bus, or a cluster memory.

4. The node controller of Claim 2 wherein the logic engine comprises an exclusive OR engine.

5. The node controller of Claim 1 comprising a command queue operable to store a logic control block.

6. The node controller of Claim 1 comprising a memory controller operable to interface with a cluster memory in the node.

7. The node controller of Claim 1 wherein the node controller is implemented as an integrated circuit device.

8. The node controller of Claim 1 comprising a peripheral component interconnect (PCI) control interface operable to support an interface between the node controller and a PCI bus.

9. A node controller for providing overall control for transferring data through a node of a data storage system, the node controller distinct from a computer-memory complex of the node, the node controller comprising:

a logic engine operable to perform a logic operation on data from at least one data source in the data storage system; and

a command queue coupled to the logic engine, the command queue operable to store a logic control block which can be processed by the logic engine.

10. The node controller of Claim 9 wherein the at least one data source is one of an interconnect link, a peripheral component interconnect (PCI) bus, or a cluster memory.

11. The node controller of Claim 9 wherein the logic engine comprises an exclusive OR engine.

12. The node controller of Claim 9 comprising a memory controller operable to interface with a cluster memory in the node.

5 13. The node controller of Claim 9 wherein the node controller is implemented as an integrated circuit device.

10 14. The node controller of Claim 9 comprising a peripheral component interconnect (PCI) control interface operable to support an interface between the node controller and a PCI bus managed by the computer-memory complex.

15 15. The node controller of Claim 9 wherein the node controller is operable to be programmed by the computer-memory complex.

16. The node controller of Claim 9 comprising:

a producer register operable to specify a first address of the command queue; and

20 a consumer register operable to specify a second address of the command queue.

25 17. A node controller for providing overall control for transferring data through a node of a data storage system, the node controller distinct from a computer-memory complex of the node, the node controller comprising:

a peripheral component interconnect (PCI) control interface operable to support an interface between the node controller and a PCI bus managed by the computer-memory complex;

5 a memory controller operable to interface with a cluster memory in the node;

a logic engine coupled to the PCI control interface and the memory controller, the logic engine operable to perform a logic operation on data from the PCI bus or the cluster memory; and

a command queue coupled to the logic engine, the command queue operable to store a logic control block which can be processed by the logic engine.